CRYLON® EN 03/2017

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YOUR HOME
FOR PLASTICS
AND COMPOSITES

CRYLON®

PRODUCT GUIDE

The highly transparent, durable and widely-used acrylic.

CRYLON®

Thanks to its high transparency, resistance and UV stability, acrylic material (PMMA) is the perfect choice when it comes to optics.

CRYLON® stands for a wide range of large-format, extruded acrylic sheets in brilliant clarity with very good optical properties, excellent colour rendering and with various transparency. The colour spectrum ranges from clear, opal, glossy black, brown to silicate green. The high quality surfaces have a very good weathering and ageing resistance and provide solutions for a variety of indoor and outdoor applications.

CRYLON® is available in standard thicknesses of 1.5 to 25 mm as well as in different product variants:

- **CRYLON® – High Impact**
- **CRYLON® – UVT**
- **CRYLON® – Surface structures**
- **CRYLON® – Soft Tone**
- **CRYLON® – Sound Barrier Wall (SBW)**
- **CRYLON® – Sound Barrier Wall Flysafe**
- **CRYLON® – Sound Barrier Wall Soft Tone**

CRYLON® sheets are produced according to DIN EN ISO 7823-2 and do not contain any toxic materials or heavy metals, which may cause environmental damage or health risks.

The sheets meet the requirements of the RoHS/WEEE directives of the European Union, restricting the use of hazardous substances in electrical and electronic equipment, as well as the requirements of the EU-chemical directive and its amendments in the currently valid version.

Moreover, **CRYLON®** sheets contain in particular none of the substances which are listed in the current version of the ECHA candidate list of "Substances of Very High Concern" (SVHC).

CRYLON® and **CRYLON® – High Impact** sheets comply with the requirements of the EU directives 1935/2004 and 10/2011 in their respective valid version. The EU Declaration of Conformity 10/2011 Annex IV for "Good Manufacturing Practice" and contact with foodstuff are available on request.

The sheets are biocompatible and tested as non-cytotoxic and certified for medical applications according to DIN ISO 10993-5.

All **CRYLON®** sheets are manufactured and audited for quality in compliance with the certified and regularly audited production and quality management system according to EN ISO 9001:2008.

CRYLON®

EXTRUDED ACRYLIC IN BRILLIANT CLARITY

CHARACTERISTICS

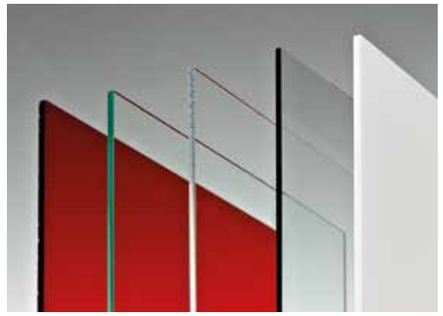
- Good optical properties
- Brilliant transparency
- Excellent colour rendering
- High-quality surfaces
- Very good weathering and ageing resistance
- Can be used in contact with foodstuff – meets all current European food control legislations
- Does not contain any toxic materials or heavy metals
- High impact grades (**CRYLON®** – **High Impact**) for specific applications
- Easy to recycle
- Easy to fabricate
- Fire classification according to EN 13501-1 and UL94 HB, only for **CRYLON®** standard grades
- **CRYLON®** sheets are provided with a 10-year warranty

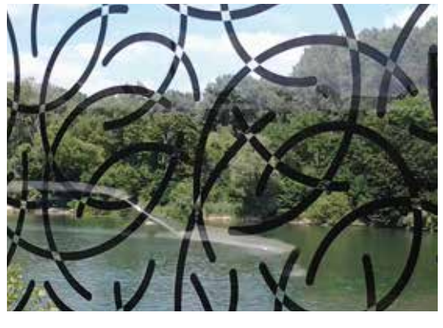
APPLICATIONS

- Construction components: light domes, partition walls, glazing, roofing, caravan windows, sound barrier walls
- Lighting: prismatic control lenses and opal diffusers
- Engineering components: housings, machine covers
- Advertising and decoration: letters, shop fittings, panels, POS/POP displays
- Other applications: containers, lettering templates, solariums UVT (UV-transmitting grade)

PROCESSING

- Printing
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Thermoforming
- Tempering





COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET												
					THICKNESS (mm)												
CRYLON®					1.5	2	2.5	3	4	5	6	8	10	12	15	20	25
	Clear		92%	2050 x 3050	80	60	50	40	30	25	20	15	12	10	8	6	5
				1250 x 2050	•	150	•	100	70	60	50	•	•	•	•	•	•
	White WO 075	opal	75%	2050 x 3050		60	50	40	30	•	•	•	•				
				1250 x 2050		•	•	•	•	•	•	•	•				
	White WO 047	opal	47%	2050 x 3050		60	•	40	•	•	•						
				1250 x 2050		•	•	•	•	•	•						
	White WO 035	opal	35%	2050 x 3050		•	•	40	30	25	•						
				1250 x 2050		•	•	•	•	•	•						
	White WO 025	opal	25%	2050 x 3050		60	•	40	30	25	20	•	•				
				1250 x 2050		•	•	•	•	•	•	•	•				
	White WS 025	opal	25%	2050 x 3050		60		40	30	25	20	15	12				
				1250 x 2050		•		•	•	•	•	•	•				
	White WO 004	opaque	4%	2050 x 3050		•		40	•	25	•	•	•				
				1250 x 2050		•		•	•	•	•	•	•				
	Glossy Black 910	opaque	<1%	2050 x 3050				40	30	25	•	•	•				
	Brown		50%	2050 x 3050		•	•	40	•	25	•	•	•				
	Silicate Green		90%	2050 x 3050		•	•	40	•	25	•	•	12	•	•	•	

CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).

LT = Light transmission (Figures apply to 3 mm sheet thickness only. For the colours White WS 025, Brown and Silicate Green, the light transmission is constant over the entire thickness range.)

• = Non standard products are available in our product offer but subject to special conditions and minimum order quantities.

Products having a number of sheets per pallet in the table are available on stock.

The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.

CRYLON® – High Impact

The high impact grades **CRYLON® 610**, **CRYLON® 620** and **CRYLON® 630** have outstanding mechanical properties and excellent impact strength.

COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET				
					THICKNESS (mm)				
CRYLON® – High Impact					2	3	4	5	6
	Clear	CRYLON® 610	90%	2050 x 3050	60	40	30	25	20
	Clear	CRYLON® 620	90%	2050 x 3050	•	•	30	•	•
	Clear	CRYLON® 630	91%	2050 x 3050	60	40	30	25	•
	Opal	CRYLON® 610	25%	2050 x 3050	•	40	30	•	•
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).									

LT = Light transmission (Figures apply to 3 mm sheet thickness only.)
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Products having a number of sheets per pallet in the table are available on stock.

GENERAL						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Density	ISO 1183	g/cm³	1.19	1.15	1.16	1.17
Water absorption 24h/23°C – 50x50x4 mm³	DIN EN ISO 62 Method 1	%	0.2	0.3	0.3	0.25
Ball indentation hardness	ISO 2039-1	MPa	235	100	135	155
Forming temperature air pressure		°C	140 – 160	130 – 150	130 – 150	130 – 150
Forming temperature vacuum		°C	160 – 190	140 – 170	140 – 170	140 – 170
Moulding shrinkage		%	0.5 – 0.8	0.6 – 0.9	0.6 – 0.9	0.6 – 0.9
MECHANICAL						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Tensile strength	ISO 527-2	MPa	70	40	50	55
Elongation at break	ISO 527-2	%	4	35	25	15
Tensile modulus	ISO 527-2	MPa	3200	1800	2100	2400
Flexural strength	ISO 178	MPa	115	65	85	90
Flexural modulus	ISO 178	MPa	3300	1800	2100	2400
Impact strength Charpy unnotched	ISO 179-1	kJ/m²	17	60	35	25
Impact strength Charpy notched	ISO 179-1	kJ/m²	2	5	4	3
OPTICAL						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Light transmission (3 mm clear)	DIN 5036-3 / EN ISO 13468-2	%	92	90	90	91
Refractive index	ISO 489	n^{D}_{20}	1.492	1.492	1.492	1.492
THERMAL						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Vicat temperature (B 50)*	ISO 306	°C	105	98	102	104
Specific heat capacity	ISO 11357-4	J/gK	1.47	1.5	1.5	1.5
Linear thermal expansion α	DIN 53752	mm/m °C	0.07	0.11	0.10	0.09
Thermal conductivity	DIN 52612	W/mK	0.18	0.18	0.18	0.18
Service temperature continuous use		°C	70	65	65	65
Max. temperature short term use		°C	90	75	80	85
Degradation temperature		°C	>280	>280	>280	>280
ELECTRICAL						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Surface resistivity	IEC 60093	Ω	$3x10^{15}$ – $3x10^{16}$	-	-	-
Volume resistivity	IEC 60093	Ω x m	$1x10^{13}$ – $5x10^{13}$	-	-	-
Electrical strength	IEC 60243-1	kV/mm	10	-	-	-
Dielectric strength	IEC 60243-1	kV/mm	30	30	30	30
Dielectrical dissipation factor 50 Hz	DIN 53483-2		0.06	-	-	-
Dielectrical dissipation factor 1 KHz	DIN 53483-2		0.04	-	-	-
Dielectrical dissipation factor 1 MHz	DIN 53483-2		0.02	0.03	0.03	0.03
Relative permittivity 50 Hz	DIN 53483-2		2.7	-	-	-
Relative permittivity 1 KHz	DIN 53483-2		3.1	-	-	-
Relative permittivity 1 MHz	DIN 53483-2		2.7	2.9	2.9	2.9
OTHERS						
Property	Method	Unit	CRYLON®	CRYLON® 610	CRYLON® 620	CRYLON® 630
Fire classification	UL94 HB		✔	✔	✔	✔
Fire classification	EN 13501-1		✔	-	-	-
Contact with foodstuff	VO (EU) 10/2011		✔	✔	✔	✔

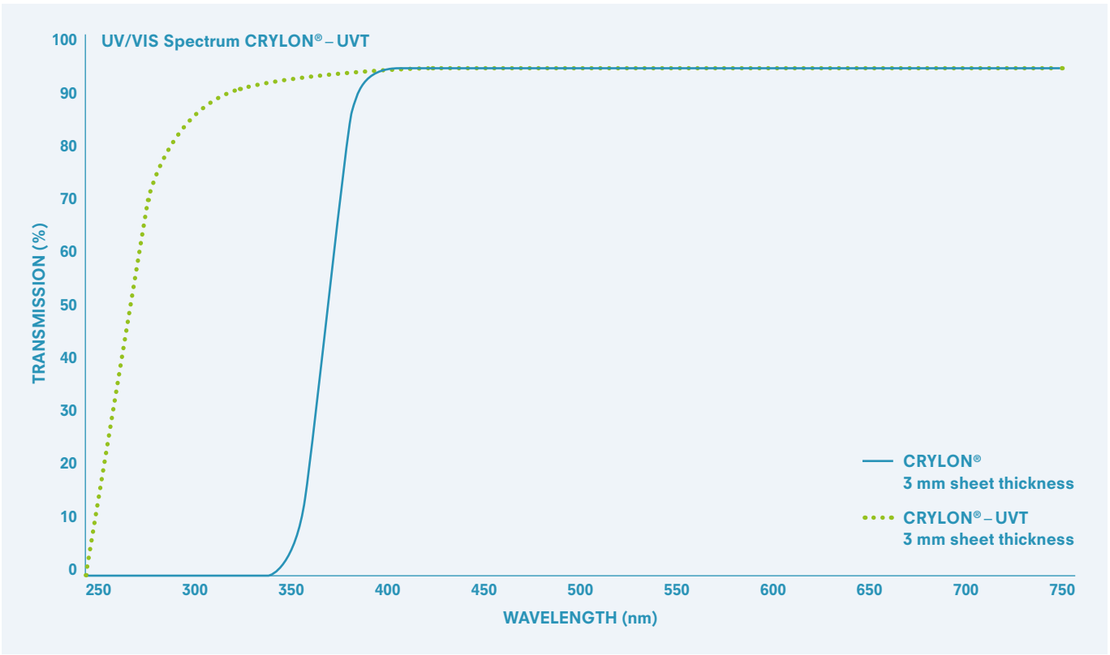
* = Pre-treatment: 16 h at 80°C
Note: These technical data of our products are typical ones; the actually measured values are subject to production variations.

CRYLON® – UVT

CRYLON® – UVT is perfectly suitable for solariums and sunbeds. The sheets have high transmittance in the UV-A/UV-B spectral range and very good resistance to degradation following exposure to these rays.

COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET			
					THICKNESS (mm)			
CRYLON® – UVT					2	3	4	5
	Clear	UVT	92%	2050 x 3050	60	40	•	•
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).								

UVT = partially transparent to UV light.
LT = Light transmission (Figures apply to 3 mm sheet thickness only.)
• = Non standard products are available in our product offer but subject to special conditions and minimum order quantities.
Products having a number of sheets per pallet in the table are available on stock.



CRYLON® – Surface structures

Besides the standard **CRYLON®** variants in clear, opal, opaque, glossy black, brown and silicate green, and the special products High Impact and UVT, there is a variant available with a slight matt surface structure for a clear view without interfering light reflections (Anti-reflex) as well as a patterned surface version (Prismatic - pyramid structure).

They are particularly suitable for the areas glazing and decoration.

COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET					
					THICKNESS (mm)					
CRYLON® – Surface structures					2	2.9	3	4	5	6
	Anti-reflex	single-sided	90%	2050 x 3050	60		40	30		
	Prismatic	single-sided	80%	1250 x 2050		•	•	•	•	•
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).										

LT = Light transmission (Figures apply to 3 mm sheet thickness only.)
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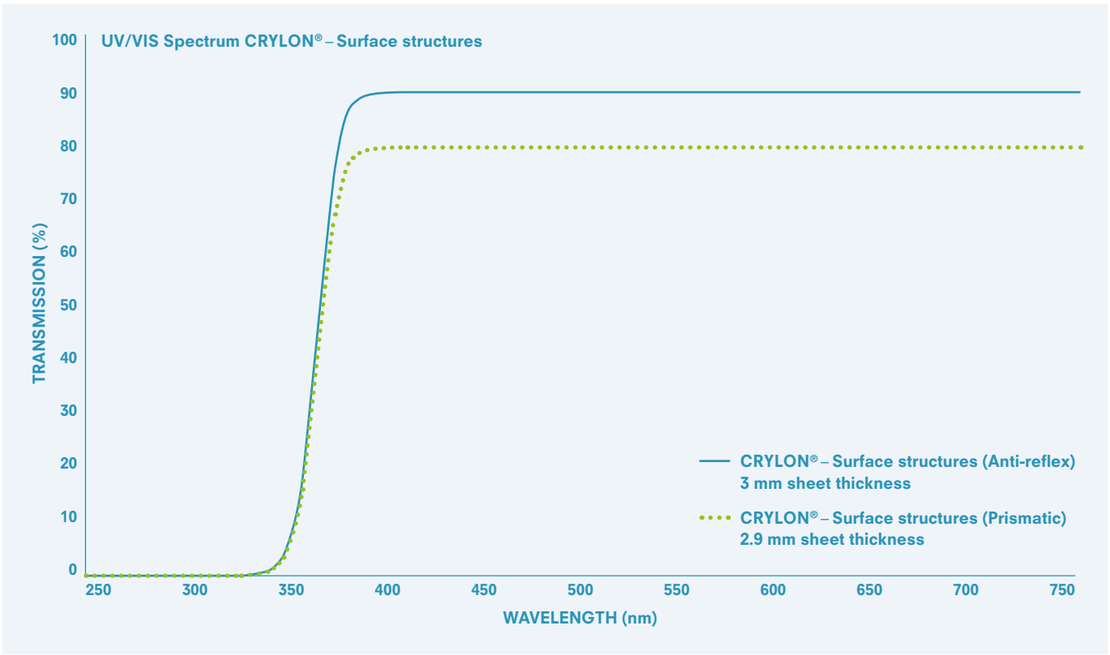
Products having a number of sheets per pallet in the table are available on stock.



CRYLON® – Soft Tone

DOUBLE-SIDED MATT SURFACE

CRYLON® – Soft Tone is an extruded acrylic sheet with the appearance and feel of traditional frosted glass.

Due to its outstanding properties, **CRYLON® – Soft Tone** provides a wide range of application possibilities for building and industrial glazing, decoration, lighting and advertising. Thanks to the double-sided matt surface of the material, images and text are to be seen clearly in all lighting conditions without distracting reflections.

Moreover, the relatively insensitive, easy to clean surface offers protection from scuffs, scratches and fingerprints.

CHARACTERISTICS

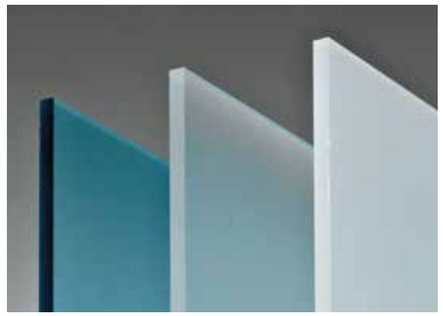
- Double-sided matt surface (single-sided matt on request)
- Improves light scatter
- Good optical properties
- Avoids reflective effects
- Stylish, trendy look
- Easy to maintain
- Easy to handle, fabricate and form
- Stable thickness tolerances
- Overlengths available

APPLICATIONS

- Interior decoration
- Information signs
- Displays (improved illumination through matt structure)
- Showcases
- Shop fittings
- Advertising signs and media
- Furniture glazing
- Partition walls
- Lighting advertising

PROCESSING

- Printing
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Thermoforming
- Tempering



COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET						
					THICKNESS (mm)						
CRYLON® – Soft Tone					2.5	3	4	5	6	8	10
	Clear	double-sided matt	88%	2050 x 3050	•	40	30	25	20	•	•
	White 075	double-sided matt	75%	2050 x 3050	•	40	30	25	20	•	•
	Blue 019	double-sided matt	70%	2050 x 3050	•	•	•	•	•	•	•
	Green 101	double-sided matt	88%	2050 x 3050	•	•	•	•	•	•	•
CRYLON® – Soft Tone single-sided matt (to special conditions).											
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).											

LT = Light transmission (Figures apply to 3 mm sheet thickness only.)
• = Non standard products are available in our product offer but subject to special conditions and minimum order quantities.
Products having a number of sheets per pallet in the table are available on stock.
The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.

GENERAL			
Property	Method	Unit	CRYLON® – Soft Tone
Density	ISO 1183	g/cm³	1.19
Water absorption 24h/23°C – 50x50x4 mm³	DIN EN ISO 62 Method 1	%	0.2
Forming temperature air pressure		°C	140 – 160
Forming temperature vacuum		°C	160 – 190
Moulding shrinkage		%	0.5 – 0.8
MECHANICAL			
Property	Method	Unit	CRYLON® – Soft Tone
Tensile strength	ISO 527-2	MPa	70
Elongation at break	ISO 527-2	%	4
Tensile modulus	ISO 527-2	MPa	3200
Flexural strength	ISO 178	MPa	115
Impact strength Charpy unnotched	ISO 179-1	kJ/m²	17
Impact strength Charpy notched	ISO 179-1	kJ/m²	2
OPTICAL			
Property	Method	Unit	CRYLON® – Soft Tone
Light transmission (3 mm clear)	DIN 5036-3	%	88
Gloss Value**	DIN 67530		<35
THERMAL			
Property	Method	Unit	CRYLON® – Soft Tone
Vicat temperature (B 50)*	ISO 306	°C	104
Specific heat capacity	ISO 11357-4	J/gK	1.47
Linear thermal expansion α	DIN 53752	mm/m °C	0.07
Thermal conductivity	DIN 52612	W/mK	0.19
Service temperature continuous use		°C	70
Max. temperature short term use		°C	90

* = Pre-treatment: 16 h at 80°C
** = The gloss value of CRYLON® standard grades is >100. The higher the determined non-dimensional value, the stronger is the surface brilliance of the examined work piece.
Note: These technical data of our products are typical ones; the actually measured values are subject to production variations.

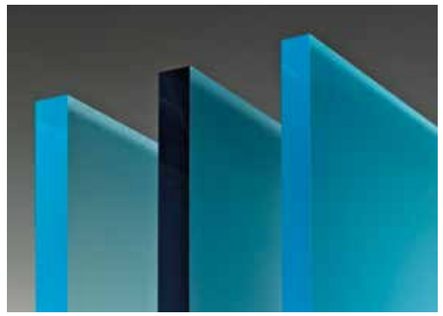
CRYLON® – Sound Barrier Wall (SBW)

TRANSPARENT AND NOISE REDUCING

CRYLON® – Sound Barrier Wall (SBW) is a sound absorbing material used in noise protection equipment on roads. Thanks to the optical properties and the very high transparency, it allows an unhindered view of the surroundings.
The advantages of using **CRYLON® – Sound Barrier Wall (SBW)** in comparison with more traditional materials such as concrete are that it: is much more lightweight (allowing for easier construction); has a better optical view; avoids the creation of solid divisions; and is more aesthetically pleasing due to the range of colours and finishes available.
CRYLON® – Sound Barrier Wall (SBW) and its variations have been tested and approved according to the European standards EN 1793 and EN 1794 and correspond to the German regulatory ZTV-Lsw06. They comply with the requirements for noise insulation, fire performance, stability under wind load and stone cast resistance.

CHARACTERISTICS

- Excellent noise reduction
- High break-resistance
- Good optical properties
- Very high transparency
- Superior UV light resistance and outstanding weather resistance
- Easy to fabricate
- Mechanical stability
- Fire stability



APPLICATIONS

- Sound barrier wall devices
- Large scale glazing
- Front covers
- Conservatories
- Roofing

PROCESSING

- Printing
- Laminating
- Sawing
- Drilling
- Thread cutting
- Milling
- Laser and water jet cutting
- Polishing
- Bonding
- Welding
- Hot bending
- Tempering

COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET			
					THICKNESS (mm)			
CRYLON® – Sound Barrier Wall (SBW)*					15	18	20	25
	Clear		90%	2050 x 3050	•	•	•	•
	Blue 115		44%	2050 x 3050	•	•	•	•
	Blue 120		50%	2050 x 3050	•	•	•	•
	Green 110		83%	2050 x 3050	•	•	•	•
	Green 036		67%	2050 x 3050	•	•	•	•
	Green 125		86%	2050 x 3050	•	•	•	•
	Brown 115		45%	2050 x 3050	•	•	•	•
	Grey 115		7%	2050 x 3050	•	•	•	•

* = Tested and certified in accordance with the requirements of EN 1793 and EN 1794 and approved for use in Sound Barrier Walls.

CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).

LT = Light transmission (Figures apply to 3 mm sheet thickness only.)
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CRYLON® – Sound Barrier Wall Flysafe

SPECIAL PROTECTIVE EFFECT AGAINST BIRD STRIKE

CRYLON® – **Sound Barrier Wall Flysafe** reduces the chance of bird strike – where birds fly into clear sheets. The design is a sophisticated and unsymmetrical pattern that can be used in all directions, providing the transparent sheets with a contrast effect. Whereas the markings appear as a barrier to birds, the foil still allows good transparency for the human eye.

Due to the pattern, printed onto the inside of the laminated film of Flysafe, it can neither be scratched or damaged, nor removed by graffiti-cleaner.

CRYLON® – **Sound Barrier Wall Flysafe** sheets qualify perfectly for applications where noise reduction and transparency are required plus at the same time protection against bird strike is provided.

The sheets are tested and certified according to the standards EN 1793 and EN 1794 and to ONR 191040 (bird protection).

COLOUR		FEATURE	LT	SIZE (mm)	SHEETS PER PALLET		
					THICKNESS (mm)		
CRYLON® – Sound Barrier Wall Flysafe*					15	18	20
	Clear	Flysafe	90%	1900 x 3050	•	•	•
* = Tested and certified in accordance with the requirements of EN 1793 and EN 1794 as well as ONR 191040 and approved for use in Sound Barrier Walls.							
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).							

LT = Light transmission (Figures apply to 20 mm sheet thickness only.)
• = Non standard products are available in our product offer but subject to special conditions and minimum order quantities.

CRYLON® – Sound Barrier Wall Soft Tone

MATT SOFT SURFACE FOR BETTER LIGHTING CONDITIONS

The matt finished glazing of **CRYLON®** – **Sound Barrier Wall Soft Tone** is achieved by a special type of co-extruded lamination applied on one side or both sides of the sheets. Owing to its outstanding properties, the sheets offer a wide range of creative possibilities for building and industrial glazing where noise reduction and transparency are required.

Thanks to the matt soft surface, light reflective effects can be avoided, whereas the light scattering can be increased. This further supports the function of this sound barrier wall.

COLOUR		FEATURE	SIZE (mm)	SHEETS PER PALLET		
				THICKNESS (mm)		
CRYLON® – Sound Barrier Wall Soft Tone*				15	18	20
	Clear	single-sided or double-sided matt	2050 x 3050	•	•	•
	Blue 115	single-sided or double-sided matt	2050 x 3050	•	•	•
	Blue 120	single-sided or double-sided matt	2050 x 3050	•	•	•
	Green 110	single-sided or double-sided matt	2050 x 3050	•	•	•
	Green 036	single-sided or double-sided matt	2050 x 3050	•	•	•
	Green 125	single-sided or double-sided matt	2050 x 3050	•	•	•
	Brown 115	single-sided or double-sided matt	2050 x 3050	•	•	•
	Grey 115	single-sided or double-sided matt	2050 x 3050	•	•	•
* = Tested and certified in accordance with the requirements of EN 1793 and EN 1794 and approved for use in Sound Barrier Walls.						
CRYLON® special conditions: Other thicknesses, colours and patterns can be produced to order, but are subject to special conditions (minimum order quantities, production lead times and price surcharge).						

• = Non standard products are available in our product offer but subject to special conditions and minimum order quantities.
The colours printed may vary from the original. To ensure exact colour matching please ask for a colour sample.